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# SCIENCE.

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FRIDAY, SEPTEMBER 17, 1886.

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## COMMENT AND CRITICISM.

ALTHOUGH THE GENERAL PUBLIC has ceased to be interested in the subject of cholera, which two years ago was the engrossing topic of daily conversation, the medical profession has not ceased to investigate its methods of growth and propagation whenever the opportunity has offered. A most important contribution has been made by Macleod and Miller, as a result of their labors in Shanghai during the past year. They found Koch's comma bacillus in twenty-five out of twenty-seven cases, and satisfactorily account for its absence in these two cases. In cases of diarrhoea and dysentery the bacillus was absent. The germ was destroyed on drying, but when kept moist was capable of growth after four months. Experiments are now being made upon guinea-pigs with a view of producing the disease in them if possible. Emmerich and Buchner, who have been studying cholera in Sicily, are of the opinion that the cholera germ finds its way into the body by means of the inspired air. The opinion commonly held, and among those of this opinion is Koch himself, is that it is through the mouth and stomach that the germs find their entrance.

THE FAITH CURE has succeeded in drawing to its ranks many individuals who, afflicted with incurable or imaginary diseases, have consulted regular physicians without obtaining any thing more than temporary benefit. From time immemorial this class has been a large one, and as a consequence the weapon ointment of Hildanus, the tar-water of Bishop Berkeley, the metallic tractors of Perkins, and the magnetic belts of Wilson, have, each in its turn, had their devotees and enthusiastic advocates. Rev. Dr. Buckley, editor of the *Christian advocate*, in an article contributed to the *Century*, declares that the tendency of faith-healing is to produce an effeminate type of character which shrinks from pain, and concentrates itself upon self and its sensations. He thinks that it destroys the ascendancy of reason in the soul, and that it tends to mental derangement. It might also be added, that such a belief, if general-

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ly accepted, would at once put a stop to all study and scientific investigation, and relegate us to the dark ages. The law which is from time to time enforced against the medical pretender and charlatan should be invoked to aid in the expulsion from the state of all, by whatever name they are known, who for mercenary purposes traffic in the innocence and simple-mindedness of the weak and the sick.

THE HIGHER EDUCATION of women was discussed by Dr. Withers Moore in his recent address to the British medical association. Inasmuch as his hearers were physicians, Dr. Moore wasted no time with an introduction, but at once went to the root of the matter by stating that the proper function of woman was to act as a producer of men, for she is the only means by which man can be brought into the world. The functions of gestation and maternity require a great outlay of physiological force, and, if this force is used up in other work, the offspring of the world must suffer, as must also the woman herself. There are two channels of expenditure of physiological force of the woman, — the terrible strain of higher and professional education, the training for competition with men in the most severe exercises of the intellect; and the expense of being properly trained for motherhood.

The saying, 'Educate a woman and you educate a race,' is full of promise if rightly interpreted; full of dire disaster, if it be applied to the mind to the exclusion of the body. Excessive mental labor is a cause of sterility; and whatever does, or tends to, render women infertile is prejudicial to a nation. Young women at the present time think that they must do men's work, though there is no necessity for it, and when they have not the constitution to do a woman's proper work. If girls were more properly taught at school the true physiology of woman, this would be in a great measure stopped. We cannot turn man into a woman, nor fit him to perform a woman's duties; no more can we fit woman to perform the work and duties of a man. Dr. Moore's address deals with this all-important question from an exceedingly practical stand-point, and is singularly free

from abstractions and generalities; and, if his views are to be controverted, they must be met with correspondingly practical objections. His treatment of the subject shows a large experience with the every-day life of the women of the present time, and will well repay most thorough and careful perusal.

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WRITER'S CRAMP IS AN AFFECTION which, until a very recent date, has been looked upon as in most cases incurable. Fortunately, however, for those who suffer from this disease, means are now known to exist not only for its amelioration, but for its permanent cure. The difficulty is one which is not, as its name implies, confined to writers. It may occur in any individual whose occupation brings into constant play one set of muscles: thus the pianist, the telegrapher, and the ballet-dancer may suffer from these cramps or from an inability to perform the acts peculiar to his occupation. The cramps are merely symptoms of a diseased condition, the exact seat of which is a matter of dispute; some locating it in the brain, others in the spinal cord, while there are those who regard the nerve-centres as in no wise affected, but trace the source of the affection to the nerves themselves. The method of treatment which has been found most successful consists in the application of gymnastics, combined with massage, to the affected muscles. The rubbing, and sometimes a gentle striking of the muscles with a wooden bar, together with regular movements of the fingers or other defective part, are continued for several weeks, during which time not more than one hour daily is devoted to these exercises. During five years, Wolff, who has given special attention to this affection, has treated 277 patients. Of this number, 245 were writers; 32 were pianists, violinists, telegraphers, and painters. 157 were cured, 22 improved, and 98 not cured.

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DR. S. W. ABBOTT, of the state board of health of Massachusetts, in the *Boston Medical and surgical journal*, Aug. 12, describes the method employed by Professor Walpert in testing the air of inhabited apartments to ascertain the amount of carbonic acid present. The air-tester of Walpert consists of a simple rubber bulb, of known capacity, connected with a glass tube, which is constricted at its further end. The bulb is filled with the air to be examined, and this air is then forced through a measured quantity of lime-water until the opacity produced by the formation of lime-

carbonate is so great as to obscure a black mark upon the bottom of the test-tube containing the lime-water. With very foul air, the bulb having a capacity of twenty-eight cubic centimetres, and the quantity of lime-water being three cubic centimetres, the mark is obscured after filling the bulb ten or fifteen times; while, if the air is as pure as it should be, the lime-water will become turbid only after the bulb has been filled thirty or forty times. Professor Walpert has prepared a table which indicates approximately the amount of carbonic acid present when the bulb has been filled from one to sixty times.

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The principle upon which this tester is based is, of course, not new. It is, however, a much more convenient method than that recommended by Angus Smith, in which bottles containing lime-water were employed. All these methods are defective, necessarily so perhaps, for the reason that they all take it for granted that the amount of carbonic acid is a true exponent of the degree of purity of the air. This is, of course, erroneous. An air containing no more carbonic acid than that of the Alps, may, on account of organic impurities, be much more deleterious than one holding a large amount of carbonic acid, but without the organic contamination. There is much reason to hope that biological methods, with plate and other cultures, will help to solve this difficult question of practically ascertaining whether a given atmosphere is or is not contaminated to such a degree as to be prejudicial to health, and in what the danger consists. While the chemists and biologists are at work upon this problem, we shall still be confined to the estimation of carbonic acid present in the air, as an indication of its purity, and are glad to learn that Dr. Abbott has found Walpert's air-tester convenient in form and size, portable, and sufficiently accurate to meet the wants of the sanitarian.

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#### THE CHARLESTON EARTHQUAKE: SOME FURTHER OBSERVATIONS.

FURTHER and more reliable observations and reports seem to confirm the substantial accuracy of the coseismal lines given in the map issued with the last number of *Science* to an even greater extent than could have been reasonably expected. The most disturbing element in compiling that map was the time of the earthquake at Charleston, as given by all the press reports and the signal-service observer at that city, 9.54 P.M. The most